

## AVIATION EMISSIONS CHARACTERIZATION ROADMAP

14<sup>th</sup> meeting @

National Academy of Sciences  
2101 Constitution Avenue, NW, Room 120  
Washington, DC, USA  
May 24-26, 2016

Color coded presentations:

- Confirmed
- Invited

Teleconference call in #: 877-336-1280 (US); or 404-443-6393 (international, toll call); code: 8384117

WebEx:

<https://www.connectmeeting.att.com>

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### DRAFT Agenda (Revised 20 April 2016)

#### DAY 1

May 24, 2016

Noon – 12:15 pm

#### (1) Welcome, Introduction and Agenda

Carl Ma (FAA) & Joe Navarrete (NAS)

12:15 – 12:30 pm

#### (2) Meeting purpose and expectations

Ralph Iovinelli (FAA)

12:30 – 1:45 pm

#### (3) NASA Emissions Research

Moderator: Daniel Jacob (FAA)

Panelists: NASA - Fay Collier, Bruce Anderson, Kathy Tacina

Topics:

- NASA's Environmentally Responsible Aviation (ERA) project
- ACCESS 2
- N+3 Rig Development Tests

1:45 – 2:00 pm

#### Break

2:00 – 3:00 pm

#### (4) Canada Emissions Research

Moderator: Maryalice Locke (FAA)

Panelists: Greg Smallwood (NRC), Pervez Canteenwalla (NRC), Ted McDonald (TC), Anthony Brown (NRC)

Topics:

- A Real-Time Method for Calibration of Black Carbon Mass Instruments for Aviation
- Alternative Fuels to 100LL Aviation Gasoline
- GARDN Research Projects
- Biofuel-Blend Flight Emissions Research

3:00 – 4:00 pm

#### (5) Commercial Space Travel Emissions

Moderator: Rangasayi Halthore (FAA)

Panelists: Office of Commercial Space (FAA), Martin Ross

Panel discussion:

- Emissions from Commercial Space Launches

End of Day 1

**Day 2****May 25, 2016**

8:00 - 9:15 am

**(6) Implementing the new CO<sub>2</sub> standards**

Moderator: Laszlo Windhoffer (FAA)

Panelists: Wendy Bailey (TC), Steve Arrowsmith (EASA), Ricardo Antonio Binotto Dupont (ANAC)

Topics:

- Overview of CAEP/10 outcomes
- Harmonizing and codifying CO<sub>2</sub> standards
- Potential issues with implementing these standards

9:15 – 9:30 am

**Break**

9:30 – 10:45 am

**(7) International engine nvPM standard**

Moderator: Daniel Jacob (FAA)

Panelists: Mike Samulski (EPA), Randy McKinney (P&amp;W), Katherine Preston (ACI-NA), Mike Kenney (KBE)

Panel discussion:

- CAEP/10 Standard and CAEP/11 Outlook
- OEMs, Regulators and Industry Perspectives of CAEP/10 and CAEP/11 standard

10:45 – 11:45 am

**(8) Recently Completed ACRP Emissions Characterization Projects**

Moderator: Jeetendra Upadhyay (FAA)

Panelists: Joseph Navarrete (NAS), Sarav Arunachalam (UNC), Mike Kenney (KBE)

Topics:

- Overview of ACRP Projects
- Dispersion Modeling Guidance for Airports Addressing Local Air Quality Health Concerns. ACRP Project: 02-58
- Development of a NO<sub>x</sub> Chemistry Module for EDMS/AEDT to Predict NO<sub>2</sub> Concentrations. ACRP Project: 02-43

11:45 am - 1:00 pm

**Lunch** (available for purchase in NAS cafeteria)

1:00 – 2:00 pm

**(9) Update on The drive to unleaded gas for Piston Powered Aircraft**

Moderator: Warren Gillette (FAA)

Panelists: Peter White (FAA); Dave Atwood (FAA)

Topics:

- Update on the Piston Aviation Fuels Initiative (PAFI) program, Phases I and II
- Testing at WJH Technical Center

2:00 – 2:15 pm

**Break**

2:15 – 3:15 pm

**(10) Fuel Composition Effects on Emissions**

Moderator: [Meng-Hui Lai \(FAA\)](#)

Panelists: [Tonghun Lee \(UIUC\)](#), [Randy Vander Wal \(PSU\)](#), [Mel Roquemore \(USAF\)](#)

Topics:

- Fundamental Studies of Alternative Fuels Emissions
- Update on Non-volatile PM Database Compilation, Analysis, and Predictive Assessment
- Update on Alternative Fuels Test Database Library

3:15 – 4:30 pm

**(11) Alternative Fuels Research**

Moderator: [Carl Ma \(FAA\)](#)

Panelists: [Aniel Jardines \(FAA\)](#), [Cynthia Ginestra \(Shell\)](#), [Imad Khalek \(SwRI\)](#)

Topics:

- FAA/CLEEN Alternative Jet Fuels R&D Update
- Correlating Reduced nvPM Emissions with Fuel Composition
- SwRI's Jet Fuel Particle Index Correlation with Particle Emissions from Gas Turbines

**End of Day 2**

**Day 3**

**May 26, 2015**

8:00 – 9:00 am

**(12) Aviation Emissions and Dispersion Modeling**

Moderator: [Mohammed Majeed \(FAA\)](#)

Panelists: [Laurent Cavadini \(EUROCONTROL\)](#), [Roger Wayson \(Wyle\)](#), [Rick Miake-Lye \(ARI\)](#)

Topics:

- EUROCONTROL Tools
- Advancing the Dispersion Modeling Capabilities for Aircraft Operations
- Cruise PM methodology

9:00 – 10:15 am

**(13) nvPM Measurements and System Losses**

Moderator: Daniel Jacob (FAA)

Panelists: Don Hagen (MS&T), Rick Miake-Lye (ARI), Frank Bachman (GE)

Topics:

- Particle losses in the system
- Uncertainties associated with nvPM measurements
- Industry experience with particle losses

10:15– 10:30 am

**Break**

10:30 – 11:30 am

**(14) Aviation Air Quality and Health Impacts**

Moderator: Nicole Didyk (FAA)

Panelists: Steven Barrett (MIT), Sarav Arunachalam (UNC), Terry Keating (EPA)

Topics:

- GeosChem Adjoint Nested Model
- Advanced Air Quality Airport Modeling Capabilities
- Task Force on Atmospheric Transport

11:30 – noon

**(15) Discussion and Concluding Remarks**

Ralph Iovinelli (FAA)

**Meeting Adjourned**